PLATFORM ELECTRICAL SYSTEMS GUIDELINES

(Last update August 2005)

Note: Refer to Appendix 20 for all Electrical System PINC's and associated definitions.

CLASSIFIED AREAS

(Last update August 2005)

F-101 **HAS THE LESSEE SUBMITTED A PLAN CLASSIFYING ALL HAZARDOUS AREAS?**

Authority: 114 **Enforcement Action: W**
802(e)(4)

Note: The Area Classification drawings should include the Class, Divisions (Zones), gas(s), vapor(s) or gas group(s), and Maximum Safe Operating Temperature or temperature range of electrical equipment permissible at the location.

INSPECTION PROCEDURE

Verify that area classification drawings are available, current, and cover all parts and levels of the facility in accordance with API RP 500 (Traditional Division System) and API RP 505 (Zone System).

IF NONCOMPLIANCE EXISTS:

Issue a warning (**W**) INC if area classification drawings are not available, current, and cover all platform decks on the facility.

BATTERIES

F-103 **ARE ALL RECHARGEABLE BATTERY SYSTEMS INSTALLED SUCH THAT HYDROGEN CANNOT COLLECT IN SUFFICIENT QUANTITIES TO CREATE A HAZARD AND TO PROTECT THE BATTERIES IN ACCORDANCE WITH API RP 14F, PARAGRAPHS 10.3.4.2 AND 10.3.4.3, AND API RP 14FZ, PARAGRAPHS 10.3.4.2 AND 10.3.4.3?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that:

1. Rechargeable batteries located inside buildings are installed in enclosures vented to the outside.
2. Rechargeable battery enclosures provide protection against the environment and ensure that falling objects do not accidentally short the batteries.
3. All electrical equipment installed in dedicated battery rooms, except for the batteries and battery leads, are suitable for a Class I, Division 1 Group B classified location.
4. All battery boxes installed on open decks are weather tight and constructed of corrosion resistant materials (e.g., fiberglass, hot dipped galvanized steel).

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in **(C)** INC if rechargeable battery systems create a hazard.

LIGHTING FIXTURES

F-104 **ARE LIGHTING FIXTURES INSTALLED IN CLASSIFIED LOCATIONS SUITABLE FOR THE PARTICULAR LOCATION AND PROTECTED FROM DAMAGE IN ACCORDANCE WITH API RP 14F, PARAGRAPHS 9.3.3.3 AND 9.3.3.6, OR API RP 14FZ, PARAGRAPHS 9.3.3.3 AND 9.3.3.6?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that:

1. Lighting fixtures (including ballasts) installed and used in areas classified as Division 1 are explosion proof and Zone 1 is flameproof.
2. Lighting fixtures are properly protected from physical damage by guards or by location.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in **(C)** INC if explosion proof lighting fixtures are not used in classified areas and not protected from physical damage by guards or by location.

Issue a component shut-in **(C)** INC if explosion proof lighting fixtures are not used in classified areas and not protected from physical damage by guards or by location.

F-105 **ARE PORTABLE ELECTRONIC DEVICES (PED'S) AND ELECTRICAL TOOLS USED IN CLASSIFIED LOCATIONS SUITABLE FOR THE LOCATION, OR USED IN CONJUNCTION WITH A HOT WORK PERMIT, IN ACCORDANCE WITH API RP 14F, PARAGRAPH 12.3, 12.9, OR API RP 14FZ, PARAGRAPH 12.3, 12.4?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that PED's and electrical tools (e.g., pagers, cell phones, drills, cameras, gas detectors, video equipment, and radios) used in classified areas are suitable for the location or are used in conjunction with an authorized **"**hot work permit."

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in **(C)** INC if the PED's or electrical tools are not used in conjunction with a hot work permit or are not certified for use in classified locations by a third party testing laboratory.

F-106 **DO PORTABLE ELECTRICAL TOOLS HAVE WARNING LABELS CERTIFYING THEIR USE IN CLASS I, GROUP D LOCATIONS OR ARE THEY PERMANENTLY LABELED "WARNING SOURCE OF IGNITION WHEN IN USE," IN ACCORDANCE WITH API RP 14F, PARAGRAPH 12.3.4, OR API RP 14FZ, PARAGRAPH 12.3.4?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that portable electric tools:

1. Used in Class I, Group D locations are permanently labeled certifying their use is approved for these locations.
2. That do not have warning labels certifying their use in hazardous locations are permanently labeled "WARNING – SOURCE OF IGNITION WHEN IN USE".

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in **(C)** INC if portable electrical tools that do not have warning labels certifying their use in hazardous locations and are not permanently labeled "WARNING – SOURCE OF IGNITION WHEN IN USE".

F-108 **ARE ELECTRICAL INSTALLATIONS MADE IN ACCORDANCE WITH API RP 500 AND API RP 14F OR API RP 505 AND API RP 14FZ?**

Authority: 114(a) **Enforcement Action: W/C/S**
114(c)
198

INSPECTION PROCEDURE:

Verify that electrical installations inspected are installed in accordance with API RP 500 and API RP 14F or API RP 505 and 14FZ and Appendix 20 of this document.

IF NONCOMPLIANCE EXISTS:

Issue a warning (**W**) INC when the installation poses no immediate danger to personnel or equipment.

Issue a component shut-in (**C**) INC for a specific piece of equipment or location when it is found to be part of an unsafe installation if it poses an immediate danger to personnel or other equipment, and it can be shut-in without affecting the overall safety of the facility.

Issue a facility shut-in (**S**) INC when the unsafe installation poses an immediate danger to the entire facility or personnel, and the specific piece of equipment or location cannot be shut-in without affecting the overall safety of the facility.

WIRING AND GROUNDING

(Last update August 2005)

F-121 **IS ALL METAL EQUIPMENT, SUCH AS BUILDINGS, VESSELS, AND SKIDS GROUNDED TO THE STEEL STRUCTURE OR GROUNDING NETWORK IN ACCORDANCE WITH API RP 14F, PARAGRAPH 6.10.3, AND API RP 14FZ, PARAGRAPH 6.10.3?**

Authority: 114 **Enforcement Action: C**
198

NOTE: Clips and clamps (e.g., alligator clips and other spring-loaded clamps) are to be employed only as temporary external equipment grounding conductor. They are primarily to insure that personnel are not inadvertently exposed to hazardous voltages when performing repair work on electrical equipment or on facility wiring.

INSPECTION PROCEDURE

Verify that:

1. Fixed outdoor power distribution and utilization equipment (42 volts and above) metal enclosures are grounded to the steel structure to which they are mounted to or a grounding network by one of the following methods:

   A. Direct contact with the metal deck or welded to the deck.
   B. An equipment grounding conductor (green, green with yellow stripes, or bare wire) that is installed in the same conduit or cable with current carrying conductors and is effectively attached to the junction box or frame of the equipment.
   C. An external bonding jumper (green, green with yellow stripes, or bare wire strap) that is installed from the exterior frames of equipment (e.g., motors, metal enclosures and raceways) to a fixed metal structure on the facility. The conductor connection between equipment and metal structure on facility should be continuous without splice and the area of contact shall be cleansed of paint and foreign material.

2. All portable electrical equipment shall be grounded through the grounding conductor in the supply cable. **Exception:** Approved double insulated hand tools
   A. All single phase and three phase electrical equipment should have a grounding pin installed in the attached cord.
   B. Cord and plug connected to portable equipment should be visually inspected for external defects (such as loose parts, deformed and missing pins, or damage to outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jacket).

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in **(C)** INC if exposed metal parts of electrical machines or equipment that are not intended to be live but are liable to become energized under fault conditions are not grounded by the methods listed above.

F-124 **ARE EXTENSION CORDS USED ONLY FOR TEMPORARY USE AND DO THEY INCLUDE A GROUNDING CONDUCTOR IN ACCORDANCE WITH API RP 14F, PARAGRAPH 12.5 OR API RP 14FZ, PARAGRAPH 12.6?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that:

1. Extension cords are used for temporary use only.
2. Extension cords have a grounding conductor within the cable jacket.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (**C**) INC if any extension cord is not used for only for temporary use or does not have a grounding conductor.

LOCKOUT / TAGOUT PROCEDURES

(Last update February 2004)

F-141 **DOES THE FACILITY HAVE AN ELECTRICAL LOCKOUT/TAGOUT PROCEDURE IN ACCORDANCE WITH API RP 14F, PARAGRAPH 12.8 OR API RP 14FZ, PARAGRAPH 12.9?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE

Verify that the operator has developed a lockout / tagout procedure to guard against electrical shock, injury from movement, or injury from power-driven equipment.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (**C**) INC if the lockout / tagout procedure for electrically operated equipment has not been implemented.

NAMEPLATE INFORMATION

(Last update February 2004)

F-161 **ARE PERMANENT NAMEPLATES ATTACHED TO ALL TRANSFORMERS AND DOES THE NAMEPLATE PROVIDE THE INFORMATION IN ACCORDANCE WITH API RP 14F, PARAGRAPH 8.2.3.1.2 OR API RP 14FZ, PARAGRAPH 8.2.3.1.2?**

Authority: 114 **Enforcement Action: C**
198

INSPECTION PROCEDURE:

Verify that permanently attached nameplates are made of a corrosion resistant material and provide:

1. The connection diagram;
2. The name of the manufacturer;
3. Rated kilovolt-amperes, frequency, and primary and secondary voltages;
4. Percent impedance;
5. Class of insulation; and
6. The temperature rise for the insulation system.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (**C**) INC if any transformer does not have a permanently attached nameplate that contains the required information.